

REMARKS

This communication is in response to the Office Action mailed on October 5, 2004 and after a telephone interview on February 1, 2005. In the Office Action, claims 1-10, 15-17, and 18-20 were pending of which claims 1-10, 15-17, and 18-20 were rejected. Exhibits of specific embodiments have been sent approximately January 24, 2005 by overnight mail in preparation for the scheduled interview.

The Office Action reports that claims 1-10 and 18-20 did not comply with the written description requirement of 35 U.S.C. §112 because support for the term "permeating" was not found in the Specification and because the term was unclear. Claim 1 has been amended to change the term "permeating" to --penetrating--. Support for the term "penetrating" is found in the Specification at least at page 2, line 29 to page 3, line 6 as follows:

In a very convenient embodiment, a polymer resin is used as the material forming the guard plates. The resin can be printed on the fabric substrate in a design that thereby forms spaced-apart guard plates. The resin penetrates into the fabric substrate and when cured, forms a strong bond therewith. [emphasis added]

It is further noted that the limitation of "permeating" (claim 1 as previously) or "penetrating" (claim 1 as currently amended) was added to clarify that the guardplate assemblies are applied when wet and are not affixed as hard and dry bodies. In the present inventions, the guardplate assemblies can comprise resins that permeate, seep, or penetrate into the fabric substrate. It is respectfully submitted that both "permeating" and "penetrating" are well-known and understood in screen-printing, which the present specification described as one method used to position and affix plates on the fabric substrate. [See Specification, page 9, lines 1-3; page 9, line 24 to page 10, line 19]

The Office Action also state that claims 18 and 19 were rejected as new matter and because it was not clear what was meant by "a lesser extent of height" in claim 18, and "a greater extent of height" in claim 19. The terms lesser and greater extent of height were merely added to define alternative embodiments where less or more than half, respectively, of each guardplate's height was penetrating the fabric substrate. Thus, for example, if a lesser extent of height of each guardplate was penetrating the substrate then most of the guardplate's height would be extending above the fabric substrate. As with the term "permeating" or "penetrating" it is believed that lesser extent and greater extent of height is well-understood and implied in the written description and drawings, and thus, present no new matter.

The Office Action next reports that claims 1-3, 8, and 15-20 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,853,854 to Nakanishi et al. (hereinafter "Nakanishi") in view of U.S. Patent No. 3,952,358 to Fukuoka (hereinafter "Fukuoka"). The Office Action states that Nakanishi discloses a multi-layer structure comprising a base sheet and a rugged pattern of a predetermined shape adhered to the base sheet (Col. 2, lines 31-38] but does not disclose woven fabric. Fukuoka was cited for disclosing "woven fabric". It is noted that the Office Action mentions "Juzenko" in paragraph 8 of the Office Action but it is assumed that "Fukuoka" was intended.

As discussed in the interview, it is submitted that Nakanishi discloses a rugged sheet including a base sheet and a rugged pattern formed of pattern elements adhered to the base sheet. Importantly, the base sheet and pattern elements of Nakanishi are embodied as a shoe sole that faces downward and is intended to contact the ground surface. In contrast, Fukuoka discloses a shoe having a lateral side section of thermosetting or thermoplastic resinous material where the lateral side section is internal to the shoe and not intended to contact the ground.

Claim 1 has been amended to recite a flexible fabric comprising a woven fabric substrate and a plurality of guard plate assemblies affixed to a top surface of the fabric substrate in a fixed relationship to each other to maintain a selected gap size, each guard plate assembly including a first layer of material affixed to the top surface of the fabric substrate, the first layer of each guard plate assembly collectively providing a first plurality of non-overlapping, polygonal guard plates penetrating at least the top surface of the fabric substrate to affix the guard plates to the fabric substrate, and a second layer of material joined to the first layer of material on a surface opposite the fabric substrate, wherein the second layer of material collectively provides a second plurality of non-overlapping guard plates registered relative to the first plurality of plates. [emphasis added]

The Manual of Patent Examining Procedure, 8th edition ("MPEP"), provides that combinations made to reject claims pursuant 35 U.S.C. §103 cannot "render the prior art unsatisfactory for its intended purpose". [MPEP 2143.01] It is believed that the combination of Nakanishi and Fukuoka has the effect of rendering both references unsatisfactory for their intended purposes. Also, it is submitted that the cited reference themselves do not suggest being combined as in the Office Action.

As discussed, Nakanishi discloses a multi-layered structure for use as a shoe sole that faces downwards and contacts the surface on which a person walks. Importantly, Nakanishi provides that its shoe sole provides "improved non-slip properties". Thus, it is respectfully submitted that Nakanishi does not teach or suggest modifying its non-woven substrate with a woven substrate. It is also believed that one skilled in the art would not find such a modification advantageous or desirable. Rather, a woven substrate would apparently be undesirable for a shoe sole due to its permeability to water and limited structural strength. Nakanishi's "non-slip" characteristic would apparently suggest that its shoe sole would be exposed to wet surfaces.

Also, as discussed in the interview, Fukuoka does not teach or suggest using a woven fabric on the bottom surface of a shoe sole. Instead, Fukuoda at Col. 13, lines 1-4 provides "a sole formed of a material including synthetic rubber as the main ingredient and an upper vamp section of woven or non-woven fabric." [emphasis added] Thus, as discussed, it is submitted that the woven fabric of Fukuoda is not intended for the bottom surface of the shoe but instead can be used on the upper vamp portion. It is further noted that Fukuoda provides "synthetic rubber" for the shoe sole, which is a non-woven material. It is believed that this cited combination was withdrawn during the interview due to the recognition that the "upper vamp" section of the shoe is on the upper portion of a shoe and not on the shoe sole.

Additionally, the Office Action states that claims 1-2, 10, 15-16, and 18-20 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 4,810,559 to Fortier et al. (hereinafter Fortier). Fortier discloses a fabric with wear and abrasion resistant platelets. The platelets of Fortier can be affixed to a web material by means such as compression molding or gluing. Importantly, the "platelets are so distributed and spaced on the piece of fabric as to allow the web to yield under all movements of the body, of the garment wearer." [Col. 1, lines 36-39, emphasis added]

As discussed in the interview, claim 1 has been amended to clarify that the guard plate assemblies are affixed to the fabric substrate "in a fixed relationship to each other to maintain a selected gap size". It is respectfully submitted that Fortier does not teach or suggest this feature. In the present inventions as embodied in claim 1, the spacing or gap size is selected and fixed. In other words, the fabric of the present inventions is not designed to yield. Indeed, the present specification provides a design motivation that the guard plates assemblies "when bonded to the fabric substrate, resist separation and prevent puncture or cutting between the guard plates" [Page,

3, lines 15-17, emphasis added]. It is noted that if the present inventive fabric were designed to yield that this would tend to defeat the intended puncture (and cut) resistant design of the fabric.

Claim 1 further recites, "the first layer of each guard plate assembly collectively providing a first plurality of non-overlapping, polygonal guard plates penetrating at least the top surface". The written description at least at page 9, line 24 to page 10, line 19 provides illustrative steps for affixing the first layer, including a "screen-printing" technique. In contrast, the Office Action states that the "glue" can provide the first material and the "platelets" would be the second material. It is observed that Fortier provides little or no description corresponding to FIG. 3A of how its platelets would be affixed with glue and such affixation does not meet the features recited in claim 1.

Also, claim 1 provides that the first plurality of plates are "polygonal". Thus, as discussed in the interview, it is respectfully submitted that Fortier does not teach or suggest the feature of non-overlapping polygonal plates for it is believed that such polygonal guard plates must be selectively and painstakingly applied. Indeed, Fortier rather than describing gluing, instead describes a compression molding technique where paste is poured in a mold through "orifices" [Col. 4, lines 53 to Col. 5, line 17]. Thus, it is submitted that the orifices could suggest that the platelets have rounded edges rather than straight edges (of a polygonal platelet). Indeed, FIGS. 2 and 5 of Fortier illustrates round, not polygonal platelets.

Finally, claim 1 recites that the second layer of material collectively provides "a second plurality of non-overlapping guard plates registered relative to the first plurality of plates." [emphasis added] As discussed in the interview, it is believed that Fortier may include glue and a first plurality of platelets. However, it is respectfully submitted that Fortier does not teach or suggest a second

plurality of plates registered relative to a first plurality of polygonal plates. Fortier is believed to be too vague to assume that glue and platelets are registered relative to one another. In contrast, the present specification provides a registration description at least at page 10, lines 9-19.

In light of the foregoing, it is believed that claim 1 is patentable over the cited art. Claims 2-10 and 18-20 depend on claim 1 and are believed to be separately patentable. Reconsideration and allowance of claims 1-10 and 18-20 are respectfully requested.

Independent claim 15 has been amended to recite a fabric comprising a woven fabric substrate and a single layer of non-overlapping guard plate assemblies affixed to a top surface of the fabric substrate, wherein each guard plate assembly includes a printed polygonal shaped first layer of material directly joined to the top surface of the fabric substrate, and a second layer of material joined to the first layer of material opposite the fabric substrate, wherein the printed first layer of material is joined directly to the top surface of the fabric substrate, and wherein adjacent polygonal shaped first layers of material are separated by linear gaps each having an approximately uniform width and maintain a fixed relationship relative to one another. [emphasis added]

Claim 15 has been amended with the features of claim 16. Claim 16 has been cancelled. Claim 15 also clarifies that adjacent polygonal shaped first layers of material maintain a fixed relationship relative to one another. Remarks relating to claim 1 are herein incorporated by reference. Therefore, it is believed that Fortier does not teach or suggest at least the fixed relationship recited in claim 15 due to the yielding design characteristics of its web material. As discussed in the interview, Fortier illustrates sweater and trouser-like embodiments on FIGS. 1 and 4 that would apparently yield to accommodate the body of the wearer. In contrast, as previously discussed, the present inventions are designed to be both

puncture and cut resistant so its first layers of material maintain a fixed relationship relative to one another rather than yield as does the Fortier fabric.

Finally, it is believed that Fortier does not teach or suggest a printed polygonal shaped first layer. Fortier simply does not describe whether its first layer of material is laminated or printed (as in the present inventions). It is thus submitted Fortier does not teach or suggest all the features of claim 15.

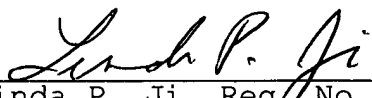
It is noted that in preparation for the interview, applicants submitted actual samples of fabrics made in accordance with the present inventions. It is believed that the samples are useful in helping to distinguish the present inventions from the cited art. At the time of the interview on February 1, 2005, the examiner remarked that the samples had not yet been received. Applicants, at the filing of the present communication, do not know whether the samples had been received.

A petition for a one month extension of time is hereby requested. A check is included herewith for the extension fee.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 
Linda P. Ji, Reg. No. 49,027
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312